

**What is claimed is:**

1       1. A method for fabricating an interconnect  
2       structure, comprising the steps of:

3              forming a first metal layer on a substrate;

4              forming a dielectric layer on the substrate,  
5                  covering the first metal layer;

6              forming a first and second via hole in the  
7                  dielectric layer exposing one end of the first  
8                  metal layer, wherein the first via hole is  
9                  nearer the end of the first metal layer than  
10                 the second via hole;

11             filling the second via hole to form a conductive via  
12                 plug to electrically connect the first metal  
13                 layer; and

14             forming a second metal layer on the dielectric layer  
15                 to electrically connect the conductive via  
16                 plug.

1       2. The method as claimed in claim 1, wherein the  
2       substrate is a TFT-array substrate for an LCD panel.

1       3. The method as claimed in claim 2, wherein the  
2       first metal layer is formed simultaneously with a gate  
3       metal layer of a TFT array.

1       4. The method as claimed in claim 2, wherein the  
2       second metal layer is formed simultaneously with a  
3       source/drain metal layer of a TFT array.

1       5. The method as claimed in claim 2, wherein the  
2       second via hole is filled with the second metal layer.

1           6. The method as claimed in claim 5, further  
2 comprising filling the first via hole simultaneously with  
3 the second via hole to form two conductive via plugs.

1           7. The method as claimed in claim 2, wherein the  
2 second metal layer is formed to bypass the first via  
3 hole.

1           8. The method as claimed in claim 7, further  
2 comprising forming a second dielectric layer to fill the  
3 first via hole and cover the second metal layer and the  
4 first dielectric layer.

5           9. An interconnect structure, comprising:  
6           a substrate;  
7           a dielectric layer disposed on the substrate;  
8           a first metal layer disposed in the dielectric  
9           layer, having a first and second end;  
10          a second metal layer disposed on the dielectric  
11          layer, wherein the second metal layer is  
12          isolated from the first metal layer by the  
13          dielectric layer; and  
14          a plurality of conductive plugs disposed in the  
15          dielectric layer and on the first end of the  
16          first metal layer to electrically connect the  
17          second metal layer.

1           10. The interconnect structure as claimed in claim  
2           9, wherein the substrate is a TFT-array substrate for an  
3           LCD panel.

1           11. The interconnect structure as claimed in claim  
2       10, wherein the first metal layer and the second metal  
3       layer are a gate metal layer and a source/drain metal  
4       layer of a TFT array respectively.

1           12. The interconnect structure as claimed in claim  
2       9, wherein the number of conductive plugs is from 2 to 5.

1           13. The interconnect structure as claimed in claim  
2       9, wherein the conductive plugs disposed on the first end  
3       of the first metal layer electrically connect one end of  
4       the second metal layer.

1           14. An interconnect structure, comprising:  
2           a substrate;  
3           a dielectric layer disposed on the substrate;  
4           a first metal layer disposed in the dielectric  
5           layer, having a first and second end;  
6           a second metal layer disposed on the dielectric  
7           layer; and  
8           a plurality of plugs disposed on the first end of  
9           the first metal layer, wherein the plug farther  
10          from the first end of the metal layer is  
11          conductive and electrically connects the second  
12          metal layer.

1           15. The interconnect structure as claimed in claim  
2       14, wherein the substrate is a TFT-array substrate for an  
3       LCD panel.

1           16. The interconnect structure as claimed in claim  
2       14, wherein the number of plugs is from 2 to 5.

1           17. The interconnect structure as claimed in claim  
2        14, wherein the conductive plug electrically connects one  
3        end of the second metal layer.